EVERY DAY SCIENCE.

An Apparatus That Will Contribute to the Safety of Miners.

NEW PROCESS FOR MAKING SALT.

A Woman to Whom a Severe Surgical Operation is a Pleasure.

RENEWED INTEREST IN MR. KEELY

IWRITTEN FOR THE DISPATCH.

An English invention, just patented, consists of an apparatus for ascertaining the contiguity of water or gas to workings in mines, and for passing food to imprisoned miners and for rescuing them. The apparatus for ascertaining the state of a mine as as regards approaching danger consists of a chamber fitted with a slide valve, which can be opened and closed at pleasure. Through a stuffing box in the chamber on the working side passes a boring tool, with which the miner drills a bole in the coal to the distance inward to which he intends to work. Assuming this to be, say, eight feet, when he has reached that distance he withdraws the boring tool, and if neither gas nor water has made its appearance he knows that he can safely go in so far.

Should he tap water or gas during the boring there would be an inrush of the one or the other into the chamber of the apparatus and its presence would be indicated by a pressure gauge. The boring tool would then be withdrawn as far as the stuffing box, the safety valve would be closed in front of it, and steps would be taken to insure safety in the workings. It is proposed that this detector shall be used each day when the men proceed to their work, in order to ascertain whether or not the elements of danger are present, and only waiting the stroke of a pick to be released. The further modifications of this apparatus relate to the passing of food to imprisoned miners and to their bodily delivery. The apparatus in each case is similar in principle to that already described, but much larger. By means of the first a large hole is drilled through the coal, the drill is withdrawn and a tubular vessel containing food and messages is passed through. By the second a larger hole is bored and a larger tubular chamber passed through, into which the imprisoned men can creep, and thus be rescued one after the

Health of Miners.

It is the impression among some who have never investigated the subject that the occupation of coal mining is unhealthy. and it will surprise the majority to learn that now the ventilation of the collieries has been so much improved, the coal miner ranks among the healthiest of workingmen. As a rule miners are undersized. This is due to their occupation, as are also their well-developed trunks and arms. The most frequent lunctional derangements among them are dyspepsia and headache. The "miner's out their exhibiting a peculiar quivering or oscillatory movement, making clear apprehension of objects an impossibility. It is said to be caused by the use of the pick by the miner in a stooping or lying posture, in a working dimly lit by the ordinary saidty lamp. A tew years ago the mining classes used to suffer largely, far in excess of the rest of the population, from lung diseases. There was a form of miner's phthisis, known as anthrocosis, where, on post mortem examination, the lung was found to be perfectly black. It the lung was squeezed there exuded a dirty black, ink-like fluid, caused by the presence of large quantities of unburnt carbon. But all this is, to a very great extent, a thing of the past. A case of well-marked authrocosis is now a very rare thing, owing to the improved ventilation of

New Salt-Making Process.

Salt is at present produced by means of open vats or pans, varying in size according to circumstances and the quality of the salt to be produced. Its manufacture necessarily requires a large area and an enormous consumption of fuel to maintain the salt at the boiling point, in order to secure the pre-cipitation of the salt more or less rapidly, according to the quality required. For example, a salt pan 12 yards long and 234 yards wide—30 square yards—exclusive of the brick work, is supposed to run out about 40 tons of salt per week. Dr. Pick, who is one of the highest authorities on the sub-ject of salt production, has, however, invented an economical process for evap-orating liquors containing salts and for separating the salts from them. By means of this apparatus, which covers 35 square yards, it is stated that 600 tens of salt can be produced per week. The apparatus in question is simple in construction and opera-tion, while the process of making salt by it is economical, continuous and automatic. It depends for its success mainly upon two principles: Firstly, that the boiling point of any liquid is lowered by reducing the pressure under which evaporation is carried on; secondly, that the steam generated by the evaporation of any liquid contains a certain quantity of latent heat, which is sufficient to evaporate another quantity of water, providing the boiling point of the latter is below the temperature of the steam

Save the Teeth. An eminent English dentist protests against the present extravagant waste of human teeth by country surgeons and incompetent dentists, and declares that while there may be sufficient reasons for extracting a tooth, it is never necessary to do so merely to relieve pain. In at least 90 per cent of the cases coming to an active den-tist, pains in the teeth are due to what may be called primary and secondary toothache. Primary toothache, the pain of which is oftener felt in the nerve-terminals in the face than in the tooth itself, is congestion of the tooth pulp, and it may be relieved very essily by careful excavation, sufficient to allow an escape of blood from the pulp, which may then be devitalized by an arseni-cal dressing. To complete the operation, which may be postponed for weeks without further inconvenience, the pulp must be removed from the root canals, and these filled to the apex. Secondary toothache, or alveolar abscess, is caused by gangrene of the pulp, and is regarded by most surgeons as so serious as to call for a removal of the tooth, which, in nine cases out of ten, might be retained and made use ul and comforts The course of treatment is an opening to the pulp to relieve the pain, followed by a series of antisceptic dressings in the roots to cleanse them from all putrescent matter, and then, as in the other case, filling them

New Flash Light for Photographing. A new flash light, which is said not to explode either by concussion or friction, is likely to take the place of several kinds which have lately proved highly dangerous in practice. This light, which is the invention of Dr. T. Taylor, consists largely of charcoal made from the silky down of the milk weed, a form of carbon which he pre-fers to all others because of its freedom from ash. A few grains of this composition placed on tissue paper and lighted by a punk match produced a prompt and blind-ing flash, while it was observed that the

to the apex.

even scorched. The flash being instan-taneous, the heat is not sufficient to ignite the most inflammable material on which the

Keely Redivivus.

It looks as if the periodical Keely "boom" was about to set in. Apropos of certain reman has offered \$5,000 to any university in New England that will send a physicist to ture of Keely's discoveries have been made known to him and he has seen the demon-strations which Keely declares he is ready to make in proof of his claims as a discoverer, not as an inventor. The feeling of the public on this question is well indicated in conversation which recently took place, i which a mechanical engineer was asked if he would like to go to Philadelphia to examine and report on the Keely motor.
"Yes, for a sufficient iee," he replied

"Do you think that your report would be valuable to your elient in proportion to the size of your fee?" was asked.
"Certainly, it would," was the reply, "if
my report should be the means of prevent-

ing his making an investment of a greate sum in the Keely motor." "But, suppose he has already invested, and he wished your report to enable him to decide whether to hold on to his stock or to

"In that case," replied the engineer, "I think I should advise him to hold on to it, for I would consider his unloading it about equal in morality to his unloading counterfeit money, with which he had been 'stuck,' upon an innocent party. If he has been swindled into buying the stock I don't think that justifies him in swindling anyone else with it."

Cookery of the Poor.

The question of the improvement of cookery among the poor classes is attracting great attention in Europe, where its immense hygienic importance is recognized The subject is one in which medical men in this country also, skilled as they are in the physiology of food, and accustomed to deal with the poor, both in family lite and in public institutions, might give great aid. That which the working classes graetly need is instruction in the art of braising, or slowly stewing at a low heat, combina-tions of meat scraps and of vegetables. A correspondent of the British Medical Jour nal says: "Anything more toothsome and nutritious than the vintager's pot au feu, which I lately tasted in the Medoc during the gathering of the grapes, cannot well be imagined. It was so delicious that a supply of it was ordered into the chateau for mid-day lunch, and it was voted by acclamaother. In conjunction with these devices, it is suggested that medical and surgical appliances, adapted for mining casualties, be furnished at depots in mining districts, so that relief and rescue apparatus can always be promptly available.

day funch, and it was voted by accismation worthy of a cordon bleu. It was made with leg of beef, onions, carrots, cabbage and the like, and poured smoking into bowls over slices of thin bread. What a lesson it conveyed to the managers of our soup kitchens, and what a meal for conveyed to the managers of our soup kitchens. soup kitchens, and what a meal for our

Alarm for Hot Bearings.

An ingenious invention bails from Copenhagen, Denmark. The idea embodied is to arrange an explosive in association with certain chemicals, so that a certain degree of heat will cause an explosion, and give warning before the heat reaches a destructive stage. Its special application is to the preservation of bearings. A small piece of sheet metal-something like a cartridge shell-is filled about half way with the explosive. A paraffine globular capsule, hotlow inside, back" is a well-known complaint in districts where shull veius are worked, and it is a very troublesome one to colliery doctors.

In other districts a peculiar affection of the filled with sulphuric acid, and sealed. This eyeballs has been noticed. It is known as plug of cork or rubber is put in, scaling the "miner's nystagmus." The patient is unable to fix his eyes upon certain objects with-

New Investion in Gines Industry, Hitherto it has been possible to produce

heet glass only by blowing a hollow cylinder, which was then cut, separated and polished. A glass manufacturer in this country has now succeeded in producing glass plates of great breadth and of any desired New England that will send a physicist to witness Keely's experiments, who will bind himself not to give an opinion until the nature of Keely's discoveries have been made makes it hardly distinguishable from art plate glass. The material part of the invention consists in the application of the peculiar, undulated, hollow, metal rollers, heated from the inside by means of steam or gas. These rollers seize the sticky liquid glass which is conducted to them from the bottom of a melting tub, without the intervention of any other apparatus whatever. To prevent the soft glass from adhering to the rollers, the latter are covered with an exceedingly thin coating of wax. The extensive use of the new process will tend to considerably cheapen window glass.

Pain-Joy. A singular phenomenon is mentioned by a Berlin professor as having come recently within his experience; viz, the case of young lady affected with "schmerz-freude," or "pain-joy." The patient belonged to that class of hysterical women who not only experience no pain during an operation, but have a morbid desire to have an otherwise most painful operation performed on them without an anesthetic. A serious injury necessitated the ligation of the facial and carotid arteries, and finally the removal of part of the lower jaw. The patient insisted on having all three of the operations performed without an anesthetic, and told the operator that she derived great pleasure from the

What Colors Will Photograph. The time was when the photographer required certain colors in dress to produce good effects. Now, with experience and improvements in chemicals, these restrictions are to a great extent removed and the most beautiful and artistic effects are produced. Subdued and quiet colors, however, make Subdued and quiet colors, however, make the neatest picture; as is shown in the pho-tos of nuns and Quaker women. It may be well, also, to bear in mind that blue and pink will photograph white; purple will appear many shades lighter than it really is; red and deep yellow appear black, or nearly so, and strong contrasts in dress or trimmings will give a gaudy effect.

To Blench Glue. The addition to ordinary glue of oxalic acid and white oxide gives a whiter and clearer product than any of the measures now in use. The glue should first be re-duced with water and heat to a thick pulp,

and the chemicals added while the mass is Colors Under the Search Light. At a recent test of search lights for the purpose of discovering an approaching enemy dressed in uniforms of various col-

ors, it was found that the red uniforms were very distinct, blue being the least conspicu-THE finest diamond in this city, a blue gem weighing 234 karat, is on exhibition at the store of M. G. Cohen, Diamond Expert and Jeweler, 533 Smithfield street.

WHITE goods sale. Great reductions

KNABLE & SHUSTER, 35 Fifth ave.

Misses' and children's double ve waists. 24 Sixth st. No branch store. all sizes, 50c a pair.

BARGAINS for Monday and Tuesday. \$1 striped surah silks to go at 69 cts.

KNABLE & SHUSTER, 35 Fifth ave.

THE MADSTONE REMEDY Applied to Alleged Cases of Hydrophobi

in Illinois. LEWISTOWN, ILL., April 26 .- Considerable excitement exists in this county over the work of mad dogs. One animal has bitten three people near Smithfield. The dogs became mad last week and have bitten many cattle, horses and other domestic ani-

mals. The animal that bit the man and boy was a large bound.

The victims of the dog's bite went to Han-cock county, where a madstone was applied. The stone, which has never tailed in a score of cases, clung to the wounds, drawing off a quantity of poisonous matter. The authorities of Fulton county have issued a warning to all people to beware of mad dogs and muzzle their canines.

LARGE and fine selection of gold and silver watches, diamonds, jewelry, onyx and marble clocks, bronzes, sterling and silver plated ware, Rogers' knives, forks and poons. Our trade is daily increasing be cause we give you the best value for your money. Examine our stock and prices. M. G. COHEN, Dismond Expert and Jeweler, 533 Smith field st. We handle nothing but first-class goods.

resemaking. Louvre. Dressmaking We do all kinds of ladies' and children's dressmaking. Perfect fit and satisfaction guaranteed. All work done on short no-

ice. Rear of Louvre Glove Emporium, 24 Sixth st.

Gents' Fine Neckwear. New patterns, 25c, 50c, 75c; light weight underwear, 25c, 35c, 50c, 62, 75c, \$1 and up; the best 50c, 75c and \$1 black diamond shirts, nothing better anywhere. Examine at Rosenbaum & Co.'s, Market street.

SEE our line of outing shirts, at Pfeifer's, 443 Smithfield st., and 100 Federal st., Al-

15-CT. dress goods reduced to 9 cts. a vard. KNABLE & SHUSTER, 35 Fifth ave. LUCERNE awnings at Mamaux & Son's 539 Penn ave., Pittsburg, Ps.

Household goods packed for shipment. Haugh & Keenan, 33-34 Water st.

TUXEDO awnings at Mamaux & Son's 539 Penn ave., Pittsburg, Pa.

EXPOSITION PARK.

CLEVELAND VS. PITTSBURG, Monday and Tuesday, April 28 and 29.

BUFFALO VS. PITTSBURG. Vednesday, Thursday, Friday and Saturday, April 30, May 1, 2 and 3.

Games called at 3:45. Admission, 50c; boys 25c. Tickets on sale at W. J. McClurg & Co.'s opposite postoffice, and R. Taylor's, No. 1 Sixth street.

BASE BALL. RECREATION PARK

NATIONAL LEAGUE GAMES.

Last Games at Home Until June.

ALLEGHENY VS. CINCINNATI, MONDAY APRIL 28. Game called at 8:45. Train leaves Union Depot at 3:30. ap27-119

THEATRE Under the direction of R. M. Gulick & Co.

NEW ADVERTISEMENTS.

WEEK COMMENCING MONDAY, APRIL 28,

MATINEES WEDNESDAY and SATURDAY.

THE FAMOUS AUTHOR AND ACTOR, MR. EDWARD

AND HIS NEW YORK COMPANY,

Under the Management of M. W. Hanley, will present Mr. Harrigan's Original Drama,

AVENDER

As Played by Him for Over Three Hundred Nights, at HARRIGAN'S PARK THEATER, New York.

THE FOLLOWING MUSICAL GEMS, INCIDENTAL TO THE PLAY, WILL BE RENDERED: I. Introduction. II. Poverty's Tears Ebb and Flow. III. Extra, Extra. IV. Jolly Old Owls. V. Get Up, Jack; John, Sit Down. VI. Sweetest Love. VII. Please

AUGMENTED :-: ORCHESTRA.

GEORGE F. BRAHAM, MUSICAL DIRECTOR. MAY 5-MR. BARNES OF NEW YORK.

HARRIS' THEATER.

Put That Down.

Every Afternoon and Evening. Appearance of the Distinguished Artists HARDIE AND VON LEER, In their new Military Melodrama,

On the Frontier.

Watch for the NOON PARADE of our Genuine Indian Brass Band. Gorgeously costumed in a picturesque Indian Dress.

Don't miss the grand ILLUMINATED PARADE at 7:15 P. M.

May 5—"Shanty Queen." ap27-29

GUENTHER'S ORCHESTRA
GFurnishes Music for Concerts, Weddings,
Receptions, &c.
Lessons on Fiute and Piano given by
PROF. GUENTHER, 69 Fifth ave., and Bisseil block, room 532.

Week Beginning Monday, April 28. HARRY WILLIAMS' ACADEMY.

MONDAY EVENING, APRIL 28. Matinees, Tuesday, Thursday and Saturday

Cecil Lane,
Mabel Verona,
Miss Ada Henry,
Wm. F. Kaye,
Morton Emerson,
Jas. F. Cook,
Miss Belle Clifton,
Sam Dearin,
Satsuma,
Miss Emma Warde,
Frank J. Dyer,
Emmerson & Cook,
Kaye & Henry, THE HENRY BURLESQUE COMPANY.

And the laughable burlesque called THE 7 TEMPTATIONS.

May 5—The American Mac's Specialty Co.

NEW ADVERTISEMENTS.

CRANDOPERA To-Morrow APR. 28, WEEK

MATINEES WEDNESDAY AND SATURDAY.

Jefferson & Taylor's Great Aquatic Specta cle.

DARK SECRET!

With all the Original Realistic Effects. Introducing

EDWARD HANLAN.

GEORGE H. HOSMER.

Champion Sculler of New England, in their own Racing Shells, in the Great

ON A RIVER OF REAL WATER!

Flooding the vast stage from wall to wall, and from 2 to 8 feet deep, with Real Row-boats. Canoes and Steam Launches laden with pleasure-seekers.

THE HERBERT BROTHERS, | THE ARLINGTON QUARTET,

The Realistic Drowning Scene, the Sensation of a Lifetime.

REGULAR PRICES, 25c, 50c, 75c and \$1. Next Week-LITTLE LORD FAUNTLEROY

EXTRA.

BIJOU THEATER.

WEEK MAY 5.

A. C. Gunther's Romantic Drama, MR. BARNES

OF NEW YORK,

Presented by a remarkably efficient company under the management of MR, FRANK W. SANGER, of the Broadway Theater, New York. A Partial List of the Players:

ROBT. HILLIARD, EMILY RIGL, SHERIDAN BLOCK, EFFIE GERMON, HORACE LEWIS, ANNIE BLANCKE, B. F. HENDRICKS, EMMA FIELDS, AND OTHERS.

Sale of Seats Commences NEXT THURSDAY AT 9 A. M. IMPERIAL HALL

Corner Seventh Ave. and New Grant St., GRAND TESTIMONIAL BENEFIT MANAGER J. M. PEET. THURSDAY EVENING, May 1, 1890, Under the auspices of the Mozart Royal Italian, Leader and Great Eastern Orchestras, Admission 50c; ladies 25c, including hat box. This will be the farewell reception given in this hall, as it is being turned into a first-class "wariety theater."

Vladimir de Pachmasm. The greatest Chopin player living, OLD CITY HALL, FRIDAY EVE., MAY &

Tickets at J. R. Henrick's Music Store, Fifth avenue. Reserved seats, \$1 50, \$1 00 and 75 cents, according to location. Chickering pianos used exclusively, ap27-103-8u

SPECIAL SALE.

During the present week we will sell all ur \$1 50 Gloves in Lacing, Button and Mousquetaire, at \$1 a pair. Avail yourself of this opportunity. All gloves fitted and satisfaction guaranteed.

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WILL BE FOUND ON OFFER, THROUGHOUT THE COMING WEEK. AT

GUSKY'S,

WHOSE MAMMOTH AND POPULAR ESTABLISHMENT, THIS SPRING, IS THE SHRINE OF FASHION AND A VERITABLE SAVINGS BANK FOR ALL CLASSES.

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SPECIAL VALUES

Boys' Knee-Pant

SUITS.

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Boys' Kilt, Jersey and Nobby Sailor Suits.

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SACK SUITS.

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SACK SUITS

SPECIAL VALUES

Fashionable

SPECIAL VALUES

SUITS.

SPECIAL VALUES

Read, Mark and Learn the True Sequel to Economy!

monotony in the wording of the thirteen squares surrounding this advertisement, yet every word is true, and truth will always stand endless repeating. We will, however, furnish you with a key to every assertion contained therein. During the coming week we shall offer elegant Spring Overcoats for Men, all styles and all shades, at \$5, \$6 50, \$8, \$10, \$12 and \$15. Sack Suits, plain or with patch pockets, at \$8, \$10, \$12, \$15 or \$18. Sack Suits (double breasted) very attractive, \$10, \$12, \$15, \$18 or \$20. One, three and four-Button Cutaways, remarkably stylish, \$8, \$10, \$12, \$14, \$15, \$16 50, \$18 and \$20. Remember these are the prevailing styles this season, besides which we've seores of others. This week we shall also put on sale 1,000 All-wool Black Twill Cheviots, (Sack or Frock) Suits, at \$8, worth at least \$12 to \$14. Or we'll give you White and Fancy Vests, single or double breasted, in all the prevailing styles and patterns as follows: White from 49c and Fancy at 98c, single breasted, or for double breasted \$1 25, with thousands to select from. In Electric Blue you'll have 250 Suits to inspect, silk faced, bound and stitched, single or double breasted, at \$15, \$18 and \$20. Or, should you desire good, serviceable Pants, we have them at \$1 75, \$2, \$2 50 and \$3.

Handsome Spring Dress Pants, every size, for \$3 50, \$4, \$5, \$6 and \$7, which, were it not for them bear-

Then, turning attention to our

BOYS' AND CHILDREN'S DEPARTMENT,

We shall this week offer Boys' durable Knee-Pant Suits at 98c, \$1 25, \$1 50, \$1 69, \$2, \$2 50 and \$3. Fine Short-Pant Dress Suits, \$4, \$5, \$6 and \$7 50. We have also the finest of Boys' Long-Pant Suits at \$2 50, \$3 50, \$4, \$5 and \$6, with a grand array of nobby designs in Jersey Suits—all shades and colors -for \$2 50, \$3 50, \$4, \$5 and \$6. Sailor Suits in all the latest novelties at 49c, 69c, 98c, \$1 25, \$1 50 and

We carry all the most fashionable and latest styles in light-colored Hats. The new style Derby, black or in light colors, at 89c, 98c, \$1 24, \$1 49, \$1 69 and \$1 98. Our stock of Boys' and Children's Straw Hats has really no limit. It contains all new cute and pleasing styles for the Spring, including Turbans, Jockeys, Windsors, Sailors, English Derbys, Yacht,

Although, at first sight, there may appear a slight | ing our tag, you could never detect from tailor-made. | mediately inspect this department and secure some of the astonishing bargains that will mark this week's special values. Nor should you overlook our

> Here you'll find the most inviting and brilliant display eyes ever rested upon. White and Fancy Shirts beyond the pale of all comparison for quantity, quality or low prices. Hosiery, Gloves and Handkerchiefs in all the very latest conceits of the season, while the vast array of stylish Neckwear defies all competition. You can get Silk Tecks and Four-in-Hands at 10c.

and better qualities of the same, our exclusive de-

signs, at 94c. Men's All-Silk Windsor Ties at

19c only. But a personal call is imperative

to form any idea of the great values we are offering

Is also completely glutted with special values alike in Ladies', Gentlemen's and Children's Footwear. There is nothing you can ask for that we have not got, and we guarantee better value for less money than any other house in Pittsburg, besides which we Alpines and numerous other shapes at 24c, 39c, 48c, than any other house in Pittsburg, besides which we 69c, 74c and 98c. Parents should not fail to imSPECIAL VALUES

Men's Light-Colored

SPRING PANTS.

STIFF HATS.

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SPECIAL VALUES

SPECIAL VALUES

STRAW HATS.

Furnishing Goods

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Be sure you secure one of those HANDSOME UM-BRELLA and CANE STANDS we are GIVING AWAY with every sale of \$15 and over in our Men's Clothing Department.

300 to 400 GUSKY'S, Market Street.

To those preferring it, we shall also continue to give away, in our Clothing Departments, to every purchaser, a TICKET to any BASEBALL GAME this season. played by either the Leage or Brotherhood Clubs.

The Leading and Most Extensive Outfitters in the State.